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Receipt PCT
JC10 Rec'd PCT/PTO 17 SEP 2001

S&H Form: (2/01)
DOCKET NO. 1454.1068

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Andre KAUP

Serial No: 09/889,934

Group Art Unit: 2643

Confirmation No. 4716

Filed: July 25, 2001

Examiner:

For: METHOD AND APPARATUS FOR TRANSFORMING A PICTURE AREA

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REQUEST FOR CORRECTED FILING RECEIPT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

It is requested that the number of claims and title on the Official Filing Receipt be corrected. The correct number of total claims is 11, the correct number of independent claims is 2; and the correct title is --METHOD AND APPARATUS FOR TRANSFORMING A PICTURE AREA--, as is evidenced by the copy of Transmittal Letter (including therein a claim chart), a copy of the Preliminary Amendment, copy of the first page of the Substitute Specification, and copy of transmittal postcard, bearing PCT/PTO Mail room date stamp, attached hereto. For the convenience of the Patent and Trademark Office, attached is a photocopy of the original receipt on which the errors have been noted in red.

It is requested that a corrected Official Filing Receipt be issued in this application.

Respectfully submitted,

STAAS & HALSEY LLP

Date: _____

9/14/01

By: _____

Richard A. Gollhofer
Richard A. Gollhofer
Registration No. 31,106

700 Eleventh Street, N.W., Suite 500
Washington, D.C. 20001
Telephone: (202) 434-1500
Facsimile: (202) 434-1501
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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/889,934	07/25/2001	2643	860	1454.1068/RA	3	X 11	X 2

CONFIRMATION NO. 4716

FILING RECEIPT



OC000000006514561

21171
STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON, DC 20001

Date Mailed: 09/05/2001

This receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Andre Kaup, Hoehenkirchen, GERMANY;

Domestic Priority data as claimed by applicant

THIS APPLICATION IS A 371 OF PCT/DE00/00278 02/01/2000

Foreign Applications

GERMANY 199 03 859.7 02/01/1999

Projected Publication Date: N/A

Non-Publication Request: No

Early Publication Request: No

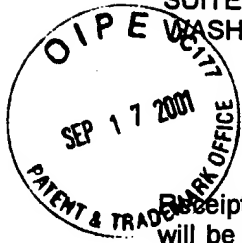
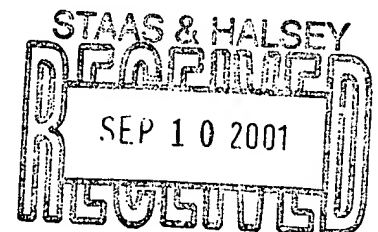
Title

APPARATUS *A PICTURE*
Method and arrangement for transforming an image area

Preliminary Class

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PCT TRANSMITTAL; FEE TRANSMITTAL, GERMAN APPLICATION WITH 3 SHEETS OF DRAWINGS ATTACHED; ENGLISH TRANSLATION WITH 3 SHEETS OF FORMAL DRAWINGS; PRELIMINARY AMENDMENT; SUBSTITUTE SPECIFICATION AND MARKED-UP SPECIFICATION; DECLARATION; INFORMATION DISCLOSURE STATEMENT WITH 12 REFERENCES; ASSIGNMENT COVERSHEET WITH ASSIGNMENT ATTACHED AND CHECK FOR \$900.00

APPLICANT(S): Andre KAUPP

SERIAL NO: NEW APPLICATION

CONFIRMATION NO.

TITLE: METHOD AND APPARATUS FOR TRANSFORMING A PICTURE AREA

FILING DATE: JULY 25, 2001

DOCKET NO: 1454.1068/RAG:fcs

DUE DATE: July 25, 2001

09/889934

JC03 Rec'd PCT/PTO 25 JUL 2001



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TITLE OF THE INVENTION

[0001] METHOD AND ARRANGEMENT FOR TRANSFORMING A PICTURE AREA

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0002] The invention relates to a method and an arrangement for transforming a picture area.

2. Description of the Related Art

[0003] Such a method with an associated arrangement is disclosed in J. De Lameillieure, R. Schäfer: "MPEG-2-Bildcodierung für das digitale Fernsehen" (MPEG-2 picture coding for digital television), Fernseh- und Kino-Technik, volume 48, No. 3/1994, pages 99-107. The known method serves in the MPEG standard as a coding method and is essentially based on the hybrid DCT (Discrete Cosine Transform) with motion compensation. A similar method is used for videophony at $n \times 64$ kbit/s (CCITT Recommendation H.261), for TV contribution (CCR Recommendation 723) at 34 or 45 Mbit/s, and for multimedia applications at 1.2 Mbit/s (ISO-MPEG-1). Hybrid DCT comprises a temporal processing stage, which uses the relationships between successive pictures, and a spatial processing stage, which utilizes the correlation within a picture.

[0004] The spatial processing (intraframe coding) essentially corresponds to traditional DCT coding. The picture is broken down into blocks of 8×8 pixels which are each transformed into the frequency domain by DCT. The result is a matrix of 8×8 coefficients which approximately reflect the two-dimensional spatial frequencies in the transformed picture block. A coefficient with frequency 0 (DC component) represents an average gray-scale value of the picture block.

[0005] The transformation is followed by data expansion. However, in natural picture originals, a concentration of the energy around the DC component (DC value) will take place, while the very high-frequency coefficients are usually zero.

[0006] In a next step, spectral weighting of the coefficients is effected, with the result that the amplitude accuracy of the high-frequency coefficients is reduced. The properties of the human

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

ATTORNEY'S DOCKET NUMBER

1454.1068/RAG

INTERNATIONAL APPLICATION NO.
PCT/DE00/00278INTERNATIONAL FILING DATE
1 February 2000PRIORITY DATE CLAIMED
1 February 1999

TITLE OF INVENTION

METHOD AND ARRANGEMENT FOR TRANSFORMING A PICTURE AREA

APPLICANT(S) FOR DO/EO/US

Andre KAUP

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
2. ☒ This is an express request to immediately begin national examination procedures (35 U.S.C. 371(f)).
3. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).
4. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
5. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
6. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
7. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
8. ☒ An oath or declaration of the inventor (35 U.S.C. 371(c)(4)).
9. ☐ A translation of the Annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 10-15 below concern document(s) or information included:

10. ☒ An Information Disclosure Statement Under 37 CFR 1.97 and 1.98.
11. ☒ An assignment document for recording.

Please mail the recorded assignment document to:

 - a. ☒ the person whose signature, name & address appears at the bottom of this document.
 - b. ☐ the following:
12. ☒ A preliminary amendment.
13. ☒ A substitute specification
14. ☐ A change of power of attorney and/or address letter.
15. ☐ Other items or information:

☒ The U.S. National Fee (35 U.S.C. 371(c)(1)) and other fees as follows:

CLAIMS	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
	TOTAL CLAIMS	11 -20=	0	x \$ 0.00	0.00
	INDEPENDENT CLAIMS	2 -3=	0	x \$ 80.00	0.00
	MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+\$270.00	0.00
	BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(4): [] Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO\$1,000 [X] International preliminary examination fee (37 C.F.R. 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO..\$ 860 [] International preliminary examination fee (37 C.F.R. 1.482) not paid to USPTO but international search fee (37 C.F.R. 1.445(a)(2)) paid to USPTO.....\$ 710 [] International preliminary examination fee paid to USPTO (37 CFR 1.482) ... but all claims did not satisfy provision of PCT Article 33(1)-(4).....\$ 690 [] International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2) to (4)\$ 100				860.00
	Surcharge of \$130 for furnishing the National fee or oath or declaration later than [] 20 [] 30 mos. from the earliest claimed priority date (37 CFR 1.482(e)).				0.00
	TOTAL OF ABOVE CALCULATIONS				860.00
	Reduction by 1/2 for filing by small entity, if applicable. Affidavit must be filed also. (Note 37 CFR 1.9, 1.27, 1.28.)				
	SUBTOTAL				860.00
	Processing fee of \$130 for furnishing the English Translation later than [] 20 [] 30 mos. from the earliest claimed priority date (37 CFR 1.482(f)).				
	TOTAL NATIONAL FEE				0.00
	Fee for recording the enclosed assignment (37 CFR 1.21(h)).				+ 40.00
	TOTAL FEES ENCLOSED				900.00

- a. ☒ A check in the amount of \$ 900.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. 19-3935 in the Amount of \$ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 19-3935. A duplicate copy of this sheet is enclosed.



21171

PATENT TRADEMARK OFFICE

7/25/01

DATE

Richard A. Gollhofer

Richard A. Gollhofer
REGISTRATION NO. 31,106



Docket No. 1454.1068/RAG

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Andre KAUP

Serial No. (Unassigned)

Group Art Unit: To be assigned

Confirmation No.

Filed: (concurrently)

Examiner: To be assigned

For: METHOD AND ARRANGEMENT FOR TRANSFORMING A PICTURE AREA

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Before examination of the above-identified application, please amend the application as follows:

IN THE SPECIFICATION

Please REPLACE the pending specification with the Substitute Specification attached hereto.

IN THE ABSTRACT

Please REPLACE the originally filed Abstract with the enclosed Substitute Abstract.

IN THE CLAIMS

Please CANCEL claims 1-14 without prejudice or disclaimer of any of the subject matter claimed therein and ADD new claims in accordance with the following:

15. A method for transforming a picture area, comprising:

carrying out a vertical transformation of the picture area and a horizontal transformation of the picture area in an order determined as follows

if the picture area is present in a line interlacing method, firstly the horizontal and then the vertical transformation is carried out, and

otherwise one of the horizontal and vertical transformation is selected to be carried out first for whichever a correlation of pixels of the picture area is stronger.

16. The method as claimed in claim 15, wherein an additional dimension is taken into account in the transformation.

- 17. The method as claimed in claim 16, wherein an additional transformation is carried out along a time dimension.

18. The method as claimed in claim 17, wherein a side information item containing the order of transformations is generated by the decision unit.

19. The method as claimed in claim 18, further comprising carrying out mirroring on a 45-degree before either transformation, so that the horizontal transformation follows from the vertical transformation.

20. The method as claimed in claim 18, further comprising carrying out mirroring on a 45-degree before either transformation, so that the vertical transformation follows from the horizontal transformation.

21. The method as claimed in claim 18, for use in a coder for compression of picture data.

22. The method as claimed in claim 21, wherein the side information item is used in a decoder for decompression of the picture area.

23. The method as claimed in claim 22, further comprising determining modes of operation of at least one of the coder and the decoder according to one of an MPEG standard and an H.26x standard.

24. The method as claimed in claim 17, wherein the transformation is one of a DCT transformation and an IDCT transformation which is an inverse thereof.

25. A system for transforming a picture area, comprising:

a transformation unit to perform vertical transformation and horizontal transformation of the picture area; and

a decision unit to control said transformation unit to first perform the horizontal transformation and then the vertical transformation if the picture area is present in a line interlacing method, and otherwise to first perform the one of the vertical and horizontal transformations for which a correlation of pixels of the picture area is stronger.

REMARKS

This Preliminary Amendment is submitted to improve the form of the English translation as filed. It is respectfully requested that this Preliminary Amendment be entered in the above-referenced application.

In accordance with the foregoing, claims 1-14 have been canceled and claims 15-25 have been added. Thus, claims 15-25 are pending and are under consideration.

A substitute specification is also being filed herewith. The substitute specification is accompanied by a marked-up copy of the original specification. No new matter has been added.

If there are any questions regarding these matters, such questions can be addressed by telephone to the undersigned. Otherwise, an early action on the merits is respectfully solicited.

If any further fees are required in connection with the filing of this Preliminary Amendment, please charge same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

By: Richard A. Gollhofer
Richard A. Gollhofer
Registration No. 31,106

700 Eleventh Street, N.W.
Suite 500
Washington, D.C. 20001
(202) 434-1500

Date: 7/25/01